

WHAT IS CLAIMED IS:

1. A host system used in combination with a driving apparatus for recording information on an information recording medium and reading information recorded on the information recording medium, the host system comprising:

an instruction generation section for generating an instruction including designation information designating an operation type of an operation to be performed by the driving apparatus, and advanced notice information indicating whether the operation type of an operation immediately subsequent to the operation designated by the designation information is the same as the operation type of the operation designated by the designation information; and

an output section for outputting the instruction to the driving apparatus,

wherein the operation type is either one of a recording operation of recording information on the information recording medium or a reading operation of reading information recorded on the information recording medium.

2. A host system according to claim 1, wherein when the operation type designated by the designation information is the recording operation, the output section outputs information to be recorded by the driving apparatus on the information recording medium together with the designation information.

3. A host system according to claim 1, further comprising an input section for receiving, from the driving apparatus,

information read by the driving apparatus from the information recording medium.

4. A host system according to claim 3, further comprising a reproduction section for reproducing the information received by the input section from the driving apparatus.

5. A host system according to claim 4, further comprising an information input section for receiving information to be recorded on the information recording medium, wherein the instruction generation section includes:

a memory section for temporarily storing the information received by the information input section before the information is output from the output section to the driving apparatus so as to be recorded on the information recording medium and for temporarily storing the information received by the input section from the driving apparatus before the information is reproduced by the reproduction section; and

a processing section for generating the designation information and the advanced notice information based on a state of the memory section.

6. A driving apparatus used in combination with a host system, the driving apparatus comprising:

a recording and reading section for recording information on an information recording medium and reading information recorded on the information recording medium; and

an instruction receiving section for receiving, from the host system, an instruction including designation information designating an operation type of an operation to be performed by the recording and reading section, and

advanced notice information indicating whether the operation type of an operation immediately subsequent to the operation designated by the designation information is the same as the operation type of the operation designated by the designation information,

wherein:

the operation type is either one of a recording operation of recording information on the information recording medium or a reading operation of reading information recorded on the information recording medium, and

the recording and reading section determines whether the operation type of the operation immediately subsequent to the operation designated by the designation information is the recording operation or the reading operation based on the designation information and the advanced notice information received by the instruction receiving section, and starts positioning for the determined operation type.

7. A driving apparatus according to claim 6, further comprising a holding section for holding recording address information representing an address of the information recording medium to which the recording and reading section is to record information and reading address information representing an address of the information recording medium from which the recording and reading section is to read information,

wherein the recording and reading section starts positioning for the determined operation type based on the recording address information or the reading address information corresponding to the determined operation type.

8. A driving apparatus according to claim 7, wherein the positioning for the determined operation type includes at least one of position shifting of the recording and reading section to the address represented by the recording address information or the reading address information corresponding to the determined operation type, and rotation adjustment for adjusting a rotation speed of the information recording medium to a rotation speed corresponding to the address represented by the recording address information or the reading address information corresponding to the determined operation type.

9. A driving apparatus according to claim 6, wherein the recording and reading section starts the positioning for the determined operation type after the operation designated by the designation information is finished.

10. A driving apparatus according to claim 7, wherein when the operation type designated by the designation information is the reading operation and the determined operation type is the recording operation, the recording and reading section starts the positioning for the determined operation type while performing the operation designated by the designation information.

11. A driving apparatus according to claim 10, wherein the recording and reading section performs the rotation adjustment while performing the operation designated by the designation information.

12. A driving apparatus according to claim 11, wherein:  
the reading address information or the recording address information held by the holding section is updated

based on the designation information, and

the recording and reading section determines a rotation speed of the information recording medium corresponding to the determined operation type based on the determined operation type and the updated reading address information or recording address information, and adjusts the rotation speed of the information recording medium to the determined rotation speed.

13. A driving apparatus according to claim 10, wherein the recording and reading section determines whether the positioning for the determined operation type is to be started while performing the operation designated by the designation information based on the reading address information and the recording address information.

14. A driving apparatus according to claim 6, wherein when the determined operation type is the reading operation, the recording and reading section performs the operation immediately subsequent to the operation designated by the designation information after performing the positioning to the determined operation type.

15. A driving apparatus according to claim 7, wherein:

the holding section holds the information read by the recording and reading section from the information recording medium, and

when the operation type designated by the designation information and the determined operation type are both the reading operation, and an error occurs while the operation designated by the designation information is performed, the recording and reading section determines whether the operation designated by the designation

information is to be performed again based on an amount of information read from the information recording medium and held by the holding section.

16. A driving apparatus according to claim 6, wherein when the operation type designated by the designation information is the reading operation and the determined operation type is the recording operation, and an error occurs while the operation designated by the designation information is performed, the recording and reading section performs the operation immediately subsequent to the operation designated by the designation information without performing the operation designated by the designation information again.

17. An information recording and reading method for a host system used in combination with a driving apparatus for recording information on an information recording medium and reading information recorded on the information recording medium, the method comprising the steps of:

generating an instruction including designation information designating an operation type of an operation to be performed by the driving apparatus, and advanced notice information indicating whether the operation type of an operation immediately subsequent to the operation designated by the designation information is the same as the operation type of the operation designated by the designation information; and

outputting the instruction to the driving apparatus,

wherein the operation type is either one of a recording operation of recording information on the information recording medium or a reading operation of

reading information recorded on the information recording medium.

18. An information recording and reading method according to claim 17, wherein when the operation type designated by the designation information is the recording operation, the step of outputting includes the step of outputting information to be recorded by the driving apparatus on the information recording medium together with the designation information.

19. An information recording and reading method according to claim 17, further comprising the step of receiving information read by the driving apparatus from the information recording medium.

20. An information recording and reading method according to claim 19, further comprising the step of reproducing the information received from the driving apparatus.

21. An information recording and reading method according to claim 20, further comprising the step of receiving information to be recorded on the information recording medium,

wherein the step of generating the instruction includes the step of generating the designation information and the advanced notice information based on a state of memory section, the memory section being for temporarily storing the information to be recorded on the information recording medium before the information is output to the driving apparatus so as to be recorded on the information recording medium and for temporarily storing the information read by the driving apparatus from the

information recording medium before the information is reproduced.

22. An information recording and reading method for a driving apparatus used in combination with a host system, the driving apparatus including a recording and reading section for recording information on an information recording medium and reading information recorded on the information recording medium, the method comprising the steps of:

receiving, from the host system, an instruction including designation information designating an operation type of an operation to be performed by the recording and reading section, and advanced notice information indicating whether the operation type of an operation immediately subsequent to the operation designated by the designation information is the same as the operation type of the operation designated by the designation information, wherein the operation type is either one of a recording operation of recording information on the information recording medium or a reading operation of reading information recorded on the information recording medium;

determining whether the operation type of the operation immediately subsequent to the operation designated by the designation information is the recording operation or the reading operation based on the received designation information and the received advanced notice information; and

starting positioning for the determined operation type.

23. An information recording and reading method according to claim 22, further comprising the step of holding recording



address information representing an address of the information recording medium to which the recording and reading section is to record information and reading address information representing an address of the information recording medium from which the recording and reading section is to read information,

wherein the step of starting positioning includes the step of starting the positioning for the determined operation type based on the recording address information or the reading address information corresponding to the determined operation type.

24. An information recording and reading method according to claim 23, wherein the step of starting positioning includes at least one of the steps of:

performing position shifting of the recording and reading section to the address represented by the recording address information or the reading address information corresponding to the determined operation type, and

performing rotation adjustment for adjusting a rotation speed of the information recording medium to a rotation speed corresponding to the address represented by the recording address information or the reading address information corresponding to the determined operation type.

25. An information recording and reading method according to claim 22, wherein the step of starting positioning includes the step of starting the positioning for the determined operation type after the operation designated by the designation information is finished.

26. An information recording and reading method according to claim 23, wherein when the operation type designated by

the designation information is the reading operation and the determined operation type is the recording operation, the step of starting the positioning includes the step of starting positioning for the determined operation type while performing the operation designated by the designation information.

27. An information recording and reading method according to claim 26, wherein the step of starting positioning includes the step of performing rotation adjustment of adjusting a rotation speed of the information recording medium to a rotation speed corresponding to the determined operation type while performing the operation designated by the designation information.

28. An information recording and reading method according to claim 27, further comprising the step of updating the reading address information or the recording address information based on the designation information,

wherein the step of performing rotation adjustment includes the steps of:

determining a rotation speed of the information recording medium corresponding the determined operation type based on the determined operation type and the updated reading address information or recording address information, and

adjusting the rotation speed of the information recording medium to the determined rotation speed.

29. An information recording and reading method according to claim 26, wherein the step of starting positioning includes the step of determining whether the positioning for the determined operation type is to be started while

performing the operation designated by the designation information based on the reading address information and the recording address information.

30. An information recording and reading method according to claim 22, wherein when the determined operation type is the reading operation, the step of starting positioning includes the step of performing the operation immediately subsequent to the operation designated by the designation information after performing the positioning to the determined operation type.

31. An information recording and reading method according to claim 23, further comprising the steps of:

holding the information read by the recording and reading section from the information recording medium, and  
when the operation type designated by the designation information and the determined operation type are both the reading operation, and an error occurs while the operation designated by the designation information is performed, determining whether the operation designated by the designation information is to be performed again based on an amount of information read from the information recording medium and held in the step of holding the information.

32. An information recording and reading method according to claim 22, wherein when the operation type designated by the designation information is the reading operation and the determined operation type is the recording operation, and an error occurs while the operation designated by the designation information is performed, performing the operation immediately subsequent to the operation

designated by the designation information without performing the operation designated by the designation information again.